

TOWN OF JAY

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February 16, 2005

TO: Paul Mitnik, PE, Maine Department of Environmental Protection

FROM: Mark L. Holt, Superintendent, Jay Sewer Department.

SUBJECT: Comments of the Draft December 2004 Androscoggin River TMDL

The Town of Jay has more than just a passing interest in the wastewater discharge license requirements and the limitations placed upon the Livermore Falls Wastewater Treatment Facility (LFWWTF), as currently 54% of the flow and load into the LFWWTF originates in Jay. Therefore, the Town of Jay is financially responsible for 54% of the Capital and Operation & Maintenance expenditures of the facility. Additional requirements and limitations placed on LFWWTF discharge license have the potential to limit economic growth within the Town of Jay.

The following presents our comments of the Draft December 2004 Androscoggin River TMDL

1. TMDL Summary - Submittal Template: Page 1, 8th bullet item, last sentence;
Determining the TMDL: Page 1, last sentence; Page 2, 3rd paragraph, last sentence; and Page 3, 2nd paragraph, last sentence and 7th bullet.

These areas of the TMDL specify problems with the Androscoggin River meeting Class C "River" Standards. However, each of these areas refers to Gulf Island "Pond". Terms such as "deeper sections", "lower four miles of Gulf Island Pond", "depths of 30 to 80 feet" and "deeper portions of the pond" repeatedly identify areas of a "pond" that do not meet "river" standards. Do all other ponds throughout the state of Maine meet Class C River D.O. criteria at "depths of 30 to 80 feet" or in their "deeper sections"?

One of the listed areas of the TMDL states that the model predicts non-attainment of DO criteria in deeper portions of the Pond with point source discharges removed. This could be considered evidence that the Pond is acting like other ponds of the State in their deeper portions. Also, it may be reasonable to suspect that non-point source pollution has been underestimated. If sediment oxygen demand from natural and non-point sources still cause non-attainment issues of Class C River DO criteria within the Pond, is it not prudent to consider assigning a new classification for such a riverine impoundment?

To state that the Androscoggin River does not meet Class C River standards is false, as the River does meet the standards. It is more appropriate to state that the Gulf Island Pond area within a segment of the River does not meet the Class C River Standards.

2. TMDL Summary - Submittal Template: Page 2, 1st bullet, last sentence; Page 4, 1st paragraph, 1st sentence & next to last sentence;
Determining the TMDL: Page 5, 3rd bullet & 1st paragraph, last sentence and most of the second paragraph.

These areas of the TMDL discuss the level of chlorophyll-a and its relationship to the algae blooms. When statements such as "uncertainty involved", "a consistent relationship between chlorophyll-a and observed algae blooms was not apparent" and "there does not appear to be a good relationship between algae blooms and chlorophyll-a at any given location", the confidence level of "sound scientific judgment" begins to waive.

We were looking for a sound, scientifically based, numerical threshold to correlate between chlorophyll-a and algae blooms in the Pond, instead we got:

"Although a bloom was not observed on this date (6/23/04), the pond *may have been* very close to a bloom condition and *perhaps* the cooler water temperatures *may* have prevented the bloom from occurring. Hence, it *would* appear that when the pond averaged values from Turner Bridge to the Deep Hole *approach* 10 ppb, this is when blooms *could* occur. **This will be** the threshold established in the TMDL for preventing algae blooms in the pond."

We perceive the above qualified statement and conclusion to have all the validity as $2+2=5$ and $7-1=3$. When defining and setting environmental policy that will greatly impact our community's economy, we expect that MEDEP will consider a scientific method that does not rely on qualifiers, such as, *may*, *perhaps*, *would*, *approach* and *could* prior to establishing a threshold that we *will be* required to comply. *Perhaps* more data *may* be needed from actual sampling events that *could* prove useful in determining the correlation that *would* exist between chlorophyll-a and the algae blooms in Gulf Island Pond. Hopefully, the MEDEP *will* see that this is done before establishing the threshold.

3. TMDL Summary - Submittal Template: Page 2, 2nd bullet, "indigenous";
Determining the TMDL: Page 2, 1st paragraph, "indigenous".

These areas of the TMDL make reference to the "indigenous fish species" and the ability of the receiving waters to support said species. Indigenous, by definition, means "having originated in and being produced, growing, or living naturally in a particular region or environment". After several conversations with individuals who have fished the River, it is apparent that the highly sought after "indigenous" trout species are present in the free flowing River segments and because of the Gulf Island dam, a pond has been formed within the River, and the bass species populate the Pond. Therefore, one would assume that both the trout and bass are now "indigenous" to the River. If trout are desired in the River, where Gulf Island Pond now exists,

the dam will need to be removed to return the River to its free flowing natural state. Currently, the water quality of the River is sufficient to support "indigenous" fish species, where the River is in its natural state.

4. TMDL Summary - Submittal Template: Page 3, 1st paragraph, last sentence;
Determining the TMDL: Page 1, 4th paragraph, 3rd sentence; Page 30, * reference below Table 9; Page 42, * reference below Table 10; and Page 45, Table 13 vs Table 10 on Page 42.

These areas of the TMDL relate to the margin of safety that is used in the modeling process. Not only is the "probability low" for the River to be @ 7Q10 while the LFWWTF is @ maximum discharge capacity, but realistically, it has never happened. Stream "drought conditions" and rainfall derived maximum WWTF flow conditions are meteorologically impossible. Since 2000, the maximum monthly average daily flow thru the LFWWTF for July/August was 0.557 MGD. The minimum average was 0.297 MGD, the daily peak was 1.037 MGD and the daily low was 0.245 MGD. Obviously, while the peak flow was occurring, the river was not @ 7Q10 low flow, it was most likely at flood stage. Furthermore, the average concentration of BOD₅ and TSS was in the 8 to 12 mg/l range. When comparing information in Table 10 to that in Table 13, one finds that the LFWWTF is discharging 500 pounds of TSS while the River is @ 7Q10 flow. Based on past year's data, the LFWWTF is contributing 17 pounds/day of TSS to the River while 7Q10 flows may exist. To use the low flow value for the River and maximum values for the LFWWTF seems to err on the side of overkill. In the case of TSS, a safety margin of 2,941% seems to be a bit extreme.

5. TMDL Summary - Submittal Template: Page 4, 3rd paragraph, 2nd bullet;
Determining the TMDL: Page 3, 4th paragraph, 5th bullet; Page 20, 3rd paragraph, next to last sentence; and Page 27, 1st paragraph.

These areas of the TMDL relate to the dam and its contribution to the non-attainment of Class C River Standards. Let's review what we have data to support and make a couple of summary conclusions: 1) Where the River is a river, the standards are met; and 2) Where the River is a pond standards are not met. The February 13, 2003 Alternative Analysis for TMDL stated that with the dam removed the River would meet DO standards. However, the 2004 TMDL has seemingly performed miracles with the data to determine that the Pond is but 30% of the problem. If dam removal means DO compliance, wouldn't it stand to reason that the dam is 100% of the problem? We are not suggesting dam removal, as the environmental and ecological impacts now may be more devastating than leaving the dam in place. The Town of Jay realizes there may be room for improvement, but nature has set its course and the Pond is now "indigenous" to our generation. Instead of trying to make the Pond meet river standards, let the Pond be a pond.

6. Determining the TMDL: Page 1, 4th paragraph, last sentence; Page 4, last paragraph, 1st bullet; Page 5, 4th bullet last sentence & first paragraph, 3rd sentence; and Page 50, 2nd paragraph.

These areas of the TMDL refer to the non-point sources of pollution and their contribution to the non-attainment issues in Gulf Island Pond. The TMDL identifies these sources of pollution as being real but may underestimate their intensity and related impact to the Ponds' non-compliance of standards. The Pond is stated to have neither improved nor diminished in DO quality since 1998. Since 1998 the point source loading of phosphorus has been drastically reduced, yet, the DO quality of the Pond does not appear to be responding to the reduced point source phosphorus loading. Perhaps the non-point sources of phosphorus are greater than the assumed values.

The TMDL surmises that the summer of 2004 was not ideal for judging water quality conditions of a normal summer and that many runoff events occurred during the summer of 2004. However, the Department used the "qualified" data anyway, because it was the best available. The Town of Jay objects to the use of this "qualified" data to establish the Androscoggin TMDL.

The only date in which a widespread algae bloom occurred during the summer of 2004 was August 4th. From July 15th thru August 4th, 5.7 inches of rainfall was recorded in Jay, Maine. There was no widespread algae bloom all summer. Then, after 5.7 inches of rainfall over a 20 day period with several runoff events, a widespread algae bloom in Gulf Island Pond develops. Is it possible that non-point sources are more of an impact or that not all point sources are accounted for?

The TMDL also identifies Androscoggin Lake as having phosphorus issues. Doesn't the Lake drain into the Androscoggin River during certain times of the year? If so, could one assume that the Androscoggin Lake is one of the contributors of the phosphorus loading to Gulf Island Pond? Perhaps this should be considered.

7. Determining the TMDL: Page 7, 3rd paragraph, next to last sentence; Page 7, 4th paragraph, 1st sentence; Page 7, 5th paragraph, 3rd sentence; Page 9, Table 1, Ortho-P Loss Term, Comment section, 3rd sentence; Page 10, 1st paragraph; Page 22, last paragraph, 1st sentence; Page 23, 3rd paragraph, next to last sentence; Page 26, paragraph Below "Step 4" table.

These areas of the TMDL relate to the River's ability to assimilate phosphorus. The TMDL states that when allocating waste loads to point sources, the phosphorus uptake rate is "important" and "critical" in establishing license limits. The TMDL states that phosphorus loss is mostly from bottom attached plants that utilize ortho-P for growth. The TMDL goes on to identify shallow water as being more suited for the growth of bottom-attached plants which uptake phosphorus. The TMDL states that the ortho-P "appears" to remain nearly constant from Jay to Turner "implying" a low assimilation rate. Therefore, the TMDL assumes the River to be "impounded" and "deep" from Jay to Turner as opposed to "free flowing" and "shallow" as from Rumford to Jay.

The corresponding phosphorus assimilation rates extrapolated from the TMDL are 5.6 pounds/mile from Rumford to Jay and 0.09 pounds/mile from Livermore Falls to Turner. There are 21+/- miles of free flowing River from Rumford to Jay and 11+/- miles of free flowing River

from Livermore Falls to Turner. Therefore, according to the report, the river is able to assimilate 118+/- pounds of P from Rumford to Jay and only 1+/- pound of P from Livermore Falls to Turner.

I have lived in Livermore since 1963 and grew up on the banks of the Androscoggin River. I am very familiar with the river from Livermore Falls to Turner and find the TMDL's statement that the river is deep and impounded from Livermore Falls to Turner to be absurd. This segment of River is free flowing and shallow and has at least three sets of rapids with more than an abundance of plant life. The River may not be identical in nature from Livermore Falls to Turner as it is from Rumford to Jay. However, it is more similar than dissimilar in nature. The assimilation rates should be more similar than the TMDL concludes along this segment of the River. Perhaps the "nearly constant" ortho-P found at Livermore Falls and Turner is from other point or non-point sources of phosphorus.

If an assimilation rate for phosphorus of 5 lbs/mile were used on this segment of the River, the average discharge from the LFWWTF of 10+/- pounds of phosphorus/day would be assimilated 9 miles prior to entering Gulf Island Pond. The TMDL states that "the first step in determining the allocation is to calculate the percentage of phosphorus assimilated in the River". Therefore, the assimilation rate for this segment of the River needs to be revisited and corrected prior to implementation of the TMDL.

Conclusions / Requests

Gulf Island Pond is a pond. Unless the dam is removed, this section of the river will not meet Class C River Standards. We ask that you reclassify this pond section of the river or, at a minimum, exempt it from Class C River Standards.

There is no scientific reason used to determine the relationship between chlorophyll-a and algae blooms in Gulf Island Pond. Before choosing a number that seems to fit, we ask that you collect data that will support the number you use as a true correlation between the two.

The word "indigenous" is applied to the fish of the River (trout) and not to the River itself. Where the River is in its indigenous state it contains the indigenous fish. The Pond is now indigenous to our generation. The fish present in the Pond (bass) should be considered indigenous. We ask that this be considered.

While the use safety margins are necessary in assessing possible environmental impacts, we believe that the margins used in this TMDL are extreme. We ask that more realistic scenarios be utilized.

The LFWWTF discharges treated water to a river. The river has the natural ability to assimilate the level of pollutants discharged. An entity has built a dam downstream from our facility that has created a 14 mile long pond. This entity sells the electrical power thereby making a profit.

Memo: Paul Mitnik, P.E.
February 15, 2005
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Now, because of the "impoundment for profit", we will be required to reduce our pollutant loading to the river which will mean either capitol expenditures on our part or we will be faced with economic development restrictions. This is not fair or just to our community. In earlier reports released by the ME DEP, the dam was identified as 100% of the reason why portions of the River do not meet Class C River Standards. While dam removal is clearly not an option, we ask that considerations be made that will require the owners of the dam to fund a significant portion of the costs incurred by our community as a result of their dam.

We believe the TMDL has either underestimated or overlooked the true impact of non-point source pollution. We question whether or not all point sources have been accurately identified and/or quantified. We ask that more time and science be allocated to the identification of these sources.

It is our opinion that the phosphorus assimilation rate associated with the section of River from Livermore Falls to Turner, as specified in the TMDL, is inaccurate. We ask that the ME DEP make a site visit to this section of the river to get a true picture of the Rivers' characteristics. As important as assimilation rates are to the calculation of waste load allocation, this piece of the equation needs to be correct.